IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF MINNESOTA

QXMédical, LLC, Plaintiff and Counterclaim-Defendant, v. Vascular Solutions LLC, Teleflex Innovations S.à.r.l., and Arrow International, Inc., Defendants and Counterclaim-Plaintiffs.	Case No. 17-cv-01969-PJS-TNL **DEFENDANTS' MEMORANDUM IN OPPOSITION TO PLAINTIFF'S SUMMARY JUDGMENT MOTION AND IN SUPPORT OF DEFENDANTS' SUMMARY JUDGMENT MOTION**

TABLE OF CONTENTS

TABLE OF AUTHORITIES

Page

CASES

STATUTES

OTHER AUTHORITIES

INTRODUCTION

Vascular Solutions LLC, Teleflex Innovations S.à.r.l., and Arrow International, Inc. (collectively "VSI") oppose QXMédical, LLC's ("QXM") motion for summary judgment and cross-move for summary judgment.

QXM seeks summary judgment on six issues: (1) invalidity of all claims for indefiniteness, (2) invalidity of the '760, '776, and '116 patents for recapture, (3) non-infringement of the '032, '413, and '380 patents based on the "without a lumen" limitation, (4) non-infringement of the "one French" claims, (5) non-infringement of the claims requiring the "segment defining a side/partially cylindrical opening" to be more rigid than the "tubular structure" or the "distal end portion of the tubular structure," and (6) anticipation of claim 53 of the '116 patent by Adams. VSI opposes QXM's motion on all issues, and cross-moves for summary judgment on all issues except for the issue of whether QXM induces infringement of the "one French" claims. VSI also moves for summary judgment of infringement on claims 25, 36, 52, and 53 of the '776 patent.

Accordingly, VSI respectfully requests that the Court rule as follows:

1) **Indefiniteness:** deny QXM's motion and grant summary judgment to VSI.
2) **Recapture:** deny QXM's motion and grant summary judgment to VSI.
3) **"Without a Lumen":** deny QXM's motion and grant summary judgment of literal infringement to VSI, or alternatively rule that material fact issues preclude summary judgment.
4) **"One French":** grant summary judgment to VSI that QXM is directly infringing the '032 and '776 patents, and deny QXM's motion for the

additional reason that genuine issues of material fact preclude summary judgment on whether QXM is inducing infringement of all of the "one French" claims.

5) **Rigidity comparisons:** deny QXM's motion and grant summary judgment to VSI.

6) **Anticipation:** deny QXM's motion and grant summary judgment to VSI.

7) **Infringement:** grant summary judgment that QXM infringes claims 25, 36, 52, and 53 of the '776 patent.

ARGUMENT

I. VSI IS ENTITLED TO SUMMARY JUDGMENT ON INDEFINITENESS.

QXM argues that the tubular section of the Boosting Catheter is "rigid enough to allow the device to be advanced within the guide catheter," allegedly meeting the Court's definition of "substantially rigid." Because the tubular section is flexible, QXM contends the claims are indefinite because there is "no meaningful distinction that would enable a person of skill in the art to distinguish 'substantially rigid' from 'flexible.'" (Br. at 2.)[1]

QXM's argument fails for two reasons. First, as a matter of law, QXM fails to establish that a person of skill cannot determine the scope of the claims with reasonable certainty. Second, QXM fails to prove indefiniteness by clear and convincing evidence. QXM's tests do not demonstrate that the Boosting Catheter's distal tube is "substantially

[1] Citations to "Br. at ___" refer to QXM's opening brief (Dkt. 124). Citations to "Merrill Ex. __" refer to exhibits to Merrill Declaration filed by QXM. (Dkt. 125). Citations to "Ex. __" refer to exhibits attached to the Declaration of Patrick J. O'Rear. Citations to "Keith ¶__" refer to the Declaration of Peter Keith.

rigid" because QXM ignored the claim language, and definitely did not prove that its distal tube is rigid enough to advance *the device* claimed by VSI's patents.

A. QXM's Argument Fails As A Matter Of Law.

"[A] patent is invalid for indefiniteness if its claims, read in light of the specification delineating the patent, and the prosecution history, fail to inform, with reasonable certainty, those skilled in the art about the scope of the invention." *Nautilus, Inc. v. Biosig Instruments, Inc.*, 572 U.S. 898, 901 (2014). The definiteness requirement ensures that the claims provide notice of what infringes or anticipates. *Id.* at 909-910. "Reasonable" certainty is required, not "absolute precision." *Id.* at 910.

Under the Court's construction, the test for infringement is whether the Boosting Catheter contains a segment that is "rigid enough to allow the device to be advanced within the guide catheter"—*i.e.*, rigid enough to act as a pushrod. QXM's expert, Brian Brown, agreed that one skilled in the art would know and could test whether something is rigid enough to advance the device. (Ex. 2 at 51-54, 59-60.) He also agreed that "under the Court's current claim construction, the Boosting Catheter does have a substantially rigid portion." (Ex. 2 at 10.) QXM's argument fails because the term "substantially rigid" delineates the scope of the claims with reasonable certainty.

QXM assumes that the terms "substantially rigid" and "flexible" are mutually exclusive. That's a logical fallacy—something "*substantially* rigid" necessarily has some "flexibility"—and the claims refute QXM's assumption. The '032, '413, and '380 patents specify that the "substantially rigid" portion is "more rigid along a longitudinal axis[] than the flexible tip portion" (*see, e.g.*, '032 patent, cl. 1), which would be

superfluous if "substantially rigid" and "flexible" were already mutually exclusive. The '760, '776, and '116 patents do not claim a "flexible" portion—only a "tubular structure." (*See, e.g.*, '760 patent, cl. 25.) QXM cannot explain why the distinction between "substantially rigid" and "flexible" matters to those claims.

The context of the invention also refutes QXM's assumption. As the Court recognized, "the substantially rigid portion must have a considerable degree of flexibility. Otherwise, it would not be able to navigate past sharp bends in the vascular system of a human being." (Dkt. 102 at 13.) In interventional cardiology, the difference between "rigid" and "flexible" is often subtle, and depends on the function of the part in question. (Keith ¶88, 91.) Even in common parlance, the terms "substantially rigid" and "flexible" can both be used to describe a diving board or a sapling or an archer's bow. There is no reason that something cannot be both "flexible" and "substantially rigid."

B. QXM's Argument Fails For Lack Of Proof.

Even if one could prove indefiniteness by showing that the Boosting Catheter's tubular structure is "substantially rigid," QXM fails to prove that fact by clear and convincing evidence.

Brown performed two tests involving modified Boosting Catheter components. In the first, he spliced together sections of Boosting Catheter tubing to form a full-length child catheter that he could advance into a guide catheter inside a heart model. (Merrill Ex. 1 ¶¶456-61 & Ex. C.) In the second, Brown removed the proximal handle and used the tubing to advance the Boosting Catheter pushrod-end first into the guide catheter. (Merrill Ex. 1 ¶¶462-64 & Ex. C.)

Neither of these tests demonstrate that the Boosting Catheter's tubular section is "substantially rigid," because neither advanced "the device" required by VSI's patent claims. Brown's full-length over-the-wire catheter is not representative of the Boosting Catheter because the tubing segments were bonded together over an additional layer of Teflon, stiffening the device. (Keith ¶94, 103.) Moreover, as VSI's expert explains, Brown's devices do not fit the claims, which dictate a rapid-exchange configuration. (Keith ¶95; *id.* at 93.) Brown's devices do not meet many of the requirements of the claims, including that the "substantially rigid portion" defines "a rail structure without a lumen"; that the "substantially rigid segment" is positioned proximal of the tubular structure and a side opening segment; or that interventional cardiology devices may be inserted into a guide catheter and advanced alongside the substantially rigid portion, into the side opening, and into the tubular structure. (*Id.* ¶96-102.) Legally, QXM cannot ignore the requirements of the claims. *Capital Sec. Sys., Inc. v. NCR Corp.*, 725 F. App'x 952, 957 (Fed. Cir. 2018) (non-precedential). In short, neither the spliced-together, full-length over-the-wire catheter nor the reversed Boosting Catheter meets the claimed requirements of a "substantially rigid" portion.

Brown could have made a rapid-exchange device with a *pushrod* as rigid as the Boosting Catheter's tube. Such a pushrod would have to be more rigid to push a device because it has more room to buckle and gains less support from the guide catheter walls than a full tube. (*See* Dkt. 102 at 14.) Mr. Brown recognized that a tube with less room to buckle is more pushable. (*See* Merrill Ex. 1 ¶459.) Although Mr. Brown claims he used the "worst case" combination of a six French ("6F") Boosting Catheter tube with an

eight French ("8F") guide catheter, the fit is still much closer than a pushrod in a guide catheter. (Keith ¶104-05.)

Because QXM cannot demonstrate indefiniteness by clear and convincing evidence, VSI requests that the Court grant summary judgment to VSI.

II. VSI IS ENTITLED TO SUMMARY JUDGMENT ON RECAPTURE.

A. QXM Must Prove By Clear And Convincing Evidence That VSI Surrendered Subject Matter To Overcome Prior Art.

A patentee has a statutory right to broaden the scope of its patents through reissue. 35 U.S.C. §251(a). A patentee may not "regain[], through reissue, subject matter that was surrendered during prosecution of the original patent in an effort to obtain allowance of the original claims." *Medtronic, Inc. v. Guidant Corp.*, 465 F.3d 1360, 1373 (Fed. Cir. 2006). Recapture applies only if VSI surrendered subject matter "in order to overcome a prior art rejection." *Cubist Pharmaceuticals, Inc. v. Hospira, Inc.*, 805 F.3d 1112, 1121-22 (Fed. Cir. 2015); *see Greenliant Systems, Inc. v. Xicor LLC*, 692 F.3d 1261, 1267 (Fed. Cir. 2012).

Recapture is a question of law with underlying factual determinations. *Medtronic*, 465 F.3d at 1373. QXM must prove recapture by clear and convincing evidence. *AIA Eng'g Ltd. v. Magotteaux Int'l, S/A*, 657 F.3d 1264, 1272 (Fed. Cir. 2011).

B. VSI Did Not Surrender Subject Matter To Overcome Prior Art.

QXM argues that the '760, '776, and '116 patents violate the rule against recapture because they omit the requirement that the substantially rigid portion define a rail structure "without a lumen." That argument depends on QXM's contention that

"without a lumen" was added to avoid the Solar reference. (Br. at 12.) As QXM's expert admitted, Solar itself proves that QXM is wrong.

When "without a lumen" was added, the PTO had rejected the pending claims as obvious in light of Niazi and Solar and had rejected VSI's description of the substantially rigid portion as "non-tubular" and "non-circular" for lack of written description. (Merrill Ex. 14 at 2-4.) VSI amended the claims to remove "non-tubular" and "non-circular" and added a requirement that the substantially rigid portion be "more rigid along a longitudinal axis than" the flexible tip portion. (Merrill Ex. 15 at 3.) Before the examiner acted on that amendment, VSI agreed to an examiner's amendment adding "rail structure without a lumen," so the relevant portion of the allowed claims reads:

> a substantially rigid portion proximal of and operably connected to, and more rigid along a longitudinal axis than, the flexible tip portion and defining a **rail structure without a lumen and** ...

(Merrill Ex. 16 at 7 (examiner's amendment in bold).)

QXM asserts that "VSI included the 'rail structure without a lumen' limitation ... to avoid Solar's hypotube or flexible wire pushrod." (Br. at 12.) That's impossible, because adding "rail structure without a lumen" does not avoid Solar. Solar's device is depicted below:

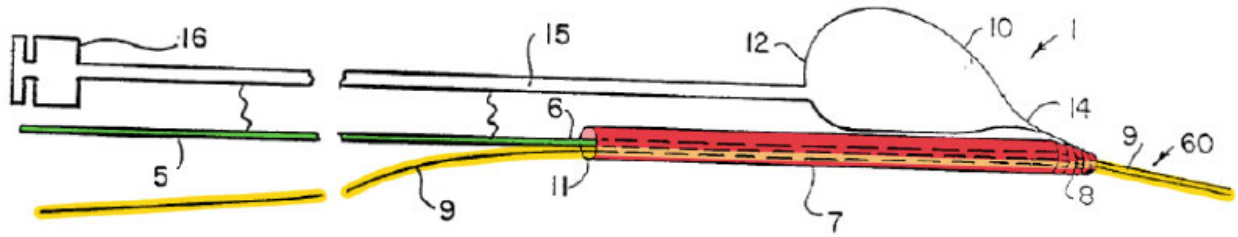


FIG. 1

Solar's "advancement member 5" is a pushrod. The advancement member is "[p]referably ... formed of a flexible wire or, alternately, of spring hollow hypotubing." (Merrill Ex. 18 ¶25; Keith ¶109-10.) QXM's expert admitted that Solar's wire pushrod is a rail structure *without a lumen*:

> Q: [T]he solid wire embodiment, that one doesn't have a lumen, correct?
>
> A. Correct.
>
> Q: So, that's a substantially rigid portion that forms the proximal shaft that doesn't have a lumen, correct?
>
> A: Correct.
>
> Q: And that would be a rail structure without a lumen, correct?
>
> A: Correct.

(Ex. 2 at 50-51.) The examiner cannot have added "without a lumen" to overcome Solar, because Solar had a rail structure "without a lumen." (Keith ¶¶107-08, 111.)

The examiner's reason for allowance confirms that "without a lumen" played no role in granting the claims over prior art. The examiner cited the "claimed rail structure," but not the "without a lumen" requirement: "While many of the structures are known, the arrangement of a claimed rail structure with the claimed flexible tip that is insertable through a hemostatic valve is not taught or suggested by the prior art." (Merrill Ex. 16 at 7.) If "without a lumen" had distinguished Solar, the examiner would have said so in the reasons for allowance. Instead, the examiner's statement indicates that the arrangement including the "claimed rail structure" is patentable whether or not the rail structure is "without a lumen." (*See id.*)

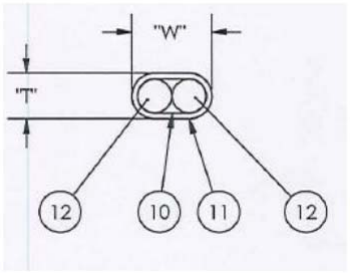
The PTO instructs its examiners to review reissue patents carefully to check for recapture problems, which are peculiar to reissue patents. (Ex. 3 at 3-10.)[2] The recapture issue here is not subtle: the original claims required a "substantially rigid portion ... defining a rail structure without a lumen" and the reissued patent claims eliminated "without a lumen."

And yet the PTO blessed VSI's elimination of "without a lumen" *three separate times*. One of the examiners who reissued the '760 and '776 patents eliminating the "without a lumen" requirement was Bradley Osinski, the same examiner who allowed VSI's '032, '413, and '850 patents with claims reciting that requirement. (O'Rear Dec. ¶¶29-30.) In all, seven patent examiners reviewed VSI's reissue patents; none raised this recapture issue. (O'Rear Dec. ¶¶38-39.)

III. THE BOOSTING CATHETER'S SUBSTANTIALLY RIGID PORTION DEFINES A RAIL STRUCTURE WITHOUT A LUMEN.

A. QXM's Boosting Catheter Literally Meets The "Without A Lumen" Limitation.

The figure below is an enlarged cross-section of the Boosting Catheter's pushrod:



[2] Contrary to QXM's argument (Br. at 12), there is no presumption that every amendment following a prior art rejection is an irrevocable surrender. The guidelines simply say that a patentee need not express an intent to surrender if a limitation is added to overcome a prior art rejection. (*See* Ex. 3 at 3-4.)

(Keith ¶28.) QXM makes the pushrod by shrink-wrapping two wires (12) inside a sheath (11). (O'Rear Ex. 7 at 239-55; Br. at 14.) Between the wires and the sheath are two tiny gaps, one filled with a bonding agent (10) and one left unfilled. (Br. at 14.) The unfilled void is approximately 6% of the area inside the sheath. (Keith ¶19-20.)

QXM argues that this configuration has two lumens: (i) the entire space inside the sheath, and (ii) the "residual gap between the wires," *i.e.*, the tiny unfilled void. (Br. at 14.) Neither is a "lumen."

1. A "Cavity" Must Be Unfilled Or Hollow.

This Court has construed "lumen" to have its plain and ordinary meaning: "the cavity of a tube." (Dkt. 102 at 25.) The same dictionaries the Court cited to define "lumen" (Dkt. 102 at 23-24) confirm that the plain and ordinary meaning of "cavity" is a "hollow," "unfilled" area. (*See* Exs. 4-6.) QXM argues that the shrink-wrapped tube has a lumen even though it is 94% filled with the wires and bonding agent. Indeed, QXM argues that a *completely* filled tube has a "lumen" "regardless of whether it has something occupying it or not." (Merrill Ex. 21 ¶¶145-46; *see also* Ex. 2 at 80-84.) This argument reads "cavity" out of the Court's construction, and is contrary to any reasonable notion of the term "lumen." A tube cannot be completely, or even 94%, filled and still have a lumen. If QXM's shrink-wrapped sheath forms a "tube," that tube has no lumen.

2. A "Residual Gap Between the Wires" Is Not "The Cavity Of A Tube."

QXM's second argument is that the "residual gap between the wires is also a lumen." (Br. at 14.) The "residual gap between the wires" is left over when the sheath is

shrink-wrapped around the wires and QXM declines to fill the gap with a bonding agent. (O'Rear Ex. 7 at 239-55.) This microscopic gap between the wires and a portion of the sheath comprises about 6% of the total cross-sectional area inside the sheath. (Keith ¶20.) No reasonable jury could consider this "residual gap between the wires" as a separate tube or as "*the cavity*" of the *tube* (11) itself. (*See id.* ¶¶22-24.)

B. Alternatively, QXM's Boosting Catheter Infringes Under The Doctrine Of Equivalents.

The doctrine of equivalents exists to ward off "efforts of copyists to evade liability for infringement by making only insubstantial changes to a patented invention." *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 535 U.S. 722, 727 (2002). This doctrine recognizes that "language in the patent claims may not capture every nuance of the invention or describe with complete precision the range of its novelty." *Id.* at 731-32.

The "essential inquiry" is whether "the accused product or process contain[s] elements identical or equivalent to each claimed element of the patented invention[.]" *Warner-Jenkinson Co. v. Hilton Davis Chem. Co.*, 520 U.S. 17, 40 (1997). Equivalence is determined by either (1) the "function-way-result" test or (2) the "insubstantial differences" test. *Id.* at 39. Under the former, the accused product infringes if, on a limitation-by-limitation basis, it "performs substantially the same function in substantially the same way with substantially the same result." *Crown Packaging Tech., Inc. v. Rexam Beverage Can Co.*, 559 F.3d 1308, 1312 (Fed. Cir. 2009). Under the latter, "[a]n element in the accused device is equivalent to a claim limitation if the only differences between the two are insubstantial." *Honeywell Int'l, Inc. v. Hamilton*

Sundstrand Corp., 370 F.3d 1131, 1139 (Fed. Cir. 2004). Infringement under the doctrine of equivalents "requires an intensely factual inquiry." *Toro Co. v. White Consol. Indus., Inc.*, 266 F.3d 1367, 1369 (Fed. Cir. 2001) (citation omitted).

1. The Structure Of The Boosting Catheter Is Equivalent To Having No Lumen At All.

As VSI's expert has opined, the tiny, non-functional void in the Boosting Catheter is equivalent to, and insubstantially different from, having no void at all. (Keith ¶¶25-26.) The Boosting Catheter's rail structure performs substantially the same function as the claimed rail structure (*i.e.*, advancing the device through a guide catheter without blocking use of the guide catheter), in substantially the same way (*i.e.*, by providing a rapid exchange rail with a minimal cross-sectional profile), to achieve substantially the same result (*i.e.*, advancing the device while allowing interventional cardiology devices to pass alongside). (*Id.*) While QXM's expert may disagree, QXM cannot credibly claim there is no material fact dispute on this "intensely factual inquiry." *Toro*, 266 F.3d at 1369.

QXM misses the point when it argues that the Boosting Catheter has features VSI's device lacks, such as a better ability to twist. (*See* Br. at 17.) The question is not whether the accused device possesses additional features to the claimed device, but whether the accused product meets the claim elements in an equivalent way. *Warner-Jenkinson*, 520 U.S. at 39. In any event, QXM's assertion that the residual gap "enables the passage of fluid and is capable of inflating a balloon mounted on the shaft" is misleading. (Br. at 17.) To make that true, QXM's expert had to alter the device by

removing the handle and attaching a balloon to the shaft. (Ex. 2 at 85-86.) In reality, the residual gap is closed off in the handle and completely unusable. (*See* Merrill Ex. 21, ¶147; *see* Keith ¶27.) QXM's other alleged differences are also insubstantial. (Keith ¶¶29-31.)

QXM also overstates the importance of additional features. QXM asserts that "[d]ifferences are substantial where, as here, an accused infringer purposefully designed around a patent and made distinct changes for functional reasons." (Br. at 18.) But an attempted design-around does not create an inference of non-infringement, as this would be "clearly inconsistent with the Supreme Court's decision in *Warner-Jenkinson* ('intent plays no role in the application of the doctrine of equivalents.')." *DeMarini Sports, Inc. v. Worth, Inc.*, 239 F.3d 1314, 1334 (Fed. Cir. 2001). QXM also claims that "[d]ifferences are ... substantial if the accused infringer obtained a patent on its unique elements." (Br. at 18 (citing *Zygo Corp. v. Wyko Corp.*, 79 F.3d 1563, 1569-70 (Fed. Cir. 1996))). While a separate patent may be relevant, *Zygo*, 79 F.3d at 1570, "it is well established that separate patentability does not avoid equivalency as a matter of law," *Fiskars, Inc. v. Hunt Mfg. Co.*, 221 F.3d 1318, 1324 (Fed. Cir. 2000), and that whether an "improvement or modification avoids infringement depends on the particular facts," *Glaxo Wellcome, Inc. v. Andrx Pharms., Inc.*, 344 F.3d 1226, 1233-34 (Fed. Cir. 2003).

2. QXM's Legal Defenses Do Not Bar VSI From Asserting Infringement Under The Doctrine Of Equivalents.

Claim vitiation. QXM puts the cart before the horse by jumping straight to vitiation before considering equivalence. The Federal Circuit warns that "[c]ourts should

be cautious not to shortcut [the vitiation] inquiry by identifying a 'binary' choice in which an element is either present or 'not present.'" *Brilliant Instruments, Inc. v. Guidetech, LLC*, 707 F.3d 1342, 1347 (Fed. Cir. 2013) (quoting *Deere & Co. v. Bush Hog, LLC*, 703 F.3d 1349, 1356-57 (Fed. Cir. 2012)). QXM's statement that "'[w]ith' a lumen is the opposite of 'without'" (Br. at 16) is an invitation to misapply the doctrine: "[T]he vitiation test cannot be satisfied by simply noting that an element is missing from the claimed structure or process because the doctrine of equivalents, by definition, recognizes that an element is missing that must be supplied by the equivalent substitute." *Brilliant*, 707 F.3d at 1347 (quoting *Deere*, 703 F.3d at 1356-57.) The Court first must answer the "fundamental question of whether there is a genuine factual issue that the accused device, while literally omitting a claim element, nonetheless incorporates an equivalent structure." *Deere*, 703 F.3d at 1357. Based on the totality of the circumstances, a reasonable jury could find that the residual gap between the wires in the Boosting Catheter is equivalent to having no lumen at all. *See, e.g., Brilliant*, 707 F.3d at 1347-48. This case is not like *Asyst Technologies, Inc. v. Emtrak, Inc.*, where the Court determined that the claimed feature ("mounted") specifically excluded the alleged equivalent ("unmounted"). 402 F.3d 1188, 1195 (Fed. Cir. 2005).

QXM's vitiation theory relies on an incorrect reading of the file history. QXM claims that "without a lumen" is "critical to the invention's novelty" because "[r]ail structure 'without a lumen' is the pushrod description the examiner found 'not taught or suggested by the prior art.'" (Br. at 16.) But the examiner's Reason for Allowance *never even mentions* the "without a lumen" limitation. (Merrill Ex. 16 at 7.) This case is unlike

Power Integrations, Inc. v. Fairchild Semiconductor International, Inc., where the allegedly "vitiated" limitation was critical to the invention's novelty. 843 F.3d 1315, 1344 (Fed. Cir. 2016).

Prosecution history estoppel. Estoppel limits the scope of equivalents when the patentee surrendered claim scope to secure patentability. *Festo*, 535 U.S. at 733-34. There are three exceptions: (i) the equivalent in question was unforeseeable at the time of amendment, (ii) the "the rationale underlying the amendment ... bear[s] no more than a tangential relation to the equivalent in question", or (iii) there is "some other reason suggesting that the patentee could not reasonably be expected to have described" the equivalent in the claims. *Id.* at 740-41.

All three exceptions apply. *First*, the Boosting Catheter's structure was not a foreseeable equivalent. *Festo*, 535 U.S. at 740. Foreseeability "depends on underlying factual issues relating to, for example, the state of the art and the understanding of a hypothetical person of ordinary skill in the art." *Festo*, 344 F.3d, at 1369. At no time did the examiner cite prior art with a shrink-wrapped pushrod or similar structure. VSI could not have reasonably foreseen that a party would attempt to evade the claim language by shrink-wrapping a pushrod to create a tubular shape. That is especially true given that the equivalent in question is not functionally different from the claimed "substantially rigid portion." (Keith ¶¶25-31.)

Second, the "rationale underlying the amendment [] bear[s] no more than a tangential relation to the equivalent in question." *Festo*, 535 U.S. at 740. As explained in part II, the prosecution history makes clear that the "without a lumen" limitation was

not added to overcome a particular prior art pushrod, let alone the specific Boosting Catheter design. A person of ordinary skill would understand that the "rail structure without a lumen" was likely "added to make clear that the device is a rapid-exchange catheter, with a tubular section forming a lumen large enough to pass interventional cardiology devices and a substantially rigid portion that does not have *such a lumen*." (Keith ¶112.) The Boosting Catheter's shrink-wrapped wires with a tiny, non-functional void is not "such a lumen." *See Anchor Wall Sys., Inc. v. Rockwood Retaining Walls, Inc.*, No. Civ. 99–1356 JRT/FLN, 2004 WL 2066823, at *14-16 (D. Minn. Sept. 7, 2004).

Third, "other reasons" suggest that the patentee "could not reasonably be expected to have described" the equivalent Boosting Catheter. *Festo*, 535 U.S. at 740-741. To have written the claims to explicitly describe the Boosting Catheter's structure, VSI would need to have believed something that it did not believe—that such a structure did not meet the "without a lumen" limitation and that a party could avoid infringement by shrink-wrapping two wires and calling the filled-in sheath or the "residual gap" a "lumen." Even if VSI's position on the literal meaning of "lumen" is not ultimately accepted, VSI's position is (and was at the time of amendment) objectively reasonable.

At the very least, the Court should deny QXM's summary judgment motion and allow the parties' experts to testify regarding their understanding of the prosecution history. *See Anchor Wall*, 2004 WL 2066823, at *14-15 ("[T]he Court may look to testimony from those skilled in the art to interpret the prosecution history.").

Ensnarement. QXM claims that VSI should be barred from asserting an equivalency theory that would "ensnare" Solar. (Br. at 16-17.) But QXM fails to apply

the right test, which asks if the claim *as a whole* reads on the prior art under the patentee's asserted scope of equivalents. *See Wilson Sporting Goods Co. v. David Geoffrey & Assoc.*, 904 F.2d 677, 683 (Fed. Cir. 1990). QXM looks only at the "rail structure without a lumen" language, ignoring the rest of the claim. (Br. at 16-17.)

In sum, if the Court denies VSI's motion for summary judgment on literal infringement, the Court should still deny QXM's motion, and give this issue to the jury.

IV. QXM INFRINGES THE "ONE FRENCH" CLAIMS.

The lumen of QXM's 6F Boosting Catheter is "not more than one French smaller" than a guide catheter with an inner diameter of .070 inches, but is "more than one French smaller" than a guide catheter with an inner diameter of .071 inches. To obtain FDA approval, QXM represented that its 6F product is compatible for use with either size. QXM later modified its instructions for use ("IFU") to indicate that its 6F device is compatible only with an .071-inch guide catheter. QXM argues that the modified IFU immunizes it from liability on the "one French" claims, allegedly because it proves QXM intends that doctors use its product only with an .071-inch guide catheter. (Br. at 18-23.)

QXM's motion should be denied. QXM's intent is irrelevant to direct infringement. QXM is directly infringing the device claims of the '032 and '776 patents by making and selling a 6F Boosting Catheter "for use with" an .070-inch guide catheter. QXM also is not entitled to summary judgment because QXM's IFU defense is a sham. There is more than enough evidence that QXM is inducing infringement to create a jury question on all "one French" claims.

A. QXM Directly Infringes The "One French" Claims Of The '032 And '776 Patents.

Claim 8 of the '032 patent claims "a device for use with a standard guide catheter." Claims 30 and 53 of the '776 patent claim "a guide extension catheter for use with a guide catheter." The .070-inch guide catheter is a "standard guide catheter" and a "guide catheter." QXM's expert admitted that .070 is "a readily available dimension for a 6 French guide catheter." (Ex. 2 at 132-33.) A majority of 6F guide catheters are .070 inches. (Merrill Ex. 23 at App. S; Keith ¶47.)

QXM's direct infringement is complete when QXM "makes" or "sells" a Boosting Catheter. 35 U.S.C. §271(a). QXM's intent is irrelevant. *Commil USA, LLC v. Cisco Systems, Inc.*, 135 S.Ct 1920, 1926 (2015); *Intel Corp. v. ITC*, 946 F.2d 821, 832 (Fed. Cir. 1991). That some doctors may not use the Boosting Catheter with an .070-inch guide catheter is no defense. *See Core Wireless Licensing S.A.R.L. v. Apple Inc.*, 899 F.3d 1356, 1362-63 (Fed. Cir. 2018) (Apple directly infringes device claims because its product is "*configured* to receive a timing advance value once," even if operable in many noninfringing modes); *Revolution Eyewear, Inc. v. Aspex Eyewear, Inc.*, 563 F.3d 1358, 1369-70 (Fed. Cir. 2009) (eyeglass frames directly infringe device claims requiring they be "*capable* of engaging" an auxiliary frame, even if not actually used that way); *Intel Corp.*, 946 F.2d at 832 (computer memory systems infringe device claims requiring "*programmable* selection means for selecting [an] alternate addressing mode," even if not actually programmed in that mode).

This Court should find that QXM is directly infringing the "one French" device claims. QXM's Boosting Catheter is "for use with" a standard guide catheter, and "for use with" is very similar to the "programmable," "capable" and "configured" language in the Federal Circuit cases cited above. QXM cannot avoid direct infringement "merely because a non-infringing mode of operation is possible." *Core Wireless*, 899 F.3d at 1363.

None of QXM's cases support importing an intent requirement into direct infringement analysis. *Accent Packaging, Inc. v. Leggett & Platt, Inc.*, 707 F.3d 1318, 1327 (Fed. Cir. 2013), and *High Tech Medical Instrumentation, Inc. v. New Image Indus., Inc.*, 49 F.3d 1551, 1555 (Fed. Cir. 1995), are far afield, because their accused devices would have to be altered to infringe. *ACCO Brands, Inc. v. ABA Locks Manufacturer* does not address direct infringement; it notes that *inducement* is not proven merely because a device is capable of infringement. 501 F.3d 1307, 1313 (Fed. Cir. 2007). QXM omits the key claim construction holding in *Typhoon Touch Technologies, Inc. v. Dell, Inc.*, which construed "memory for storing" to require that the device be "actually programmed or configured to store the data collection application," but did not require that the device actually store data to infringe. 659 F.3d 1376, 1380-81 (Fed. Cir. 2011).

B. There Are Genuine Issues Of Material Fact Concerning Whether QXM Has Induced Infringement Of The "One French" Claims.

To win summary judgment on inducement, QXM must demonstrate that no reasonable jury could find that QXM specifically intended to cause infringement of the "one French" claims, or, alternatively, that QXM acted with "willful blindness." *DSU*

Med. Corp. v. JMS Co., 471 F.3d 1293, 1306 (Fed. Cir. 2006); *see Global-Tech Appliances, Inc. v. SEB S.A.*, 563 U.S. 754, 765-70 (2012). Intent is a jury question. The jury is free to infer intent after considering all of the circumstances, evaluating the credibility of the witnesses, and discrediting unreliable evidence. *Broadcom Corp. v. Qualcomm Inc.*, 543 F.3d 683, 699-700 (Fed. Cir. 2008).

Relying on the fine print in its modified IFU, QXM brushes aside inducement in two paragraphs. (Br. at 22-23.) QXM ignores substantial evidence from which a reasonable jury could find that QXM has induced and is inducing infringement.

First, over 50% of 6F guide catheters are .070. (Merrill Ex. 23 at App. S; Keith ¶47) QXM knows that use of its 6F product with an .070-inch guide catheter infringes. (Ex. 2 at 131-32.)

Second, to win FDA approval, QXM told the FDA that its 6F product is compatible with a 6F guide catheter with an internal diameter of .070 inches, and specifically relied on an IFU indicating that compatibility. (Ex. 8 at QXM006315-16; Ex. 9 at QXM007398; Ex. 7 at 187-89, 194-98.) That IFU is otherwise substantively identical with QXM's revised IFU. (*Compare* Ex. 9 at QXM007395-7403, *with* Ex. 10.) QXM thus obtained permission to sell its 6F Boosting Catheter by representing to the FDA that its 6F product was "for use with" an .070 guide catheter.

Third, QXM tested its 6F product using .070 guide catheters. (Ex. 11 at QXM008641; Ex. 7 at 202-04.) The 6F Boosting Catheter passed 85 tests with an .070 guide catheter. *Id*.

Fourth, QXM's revised IFU still states that its 6F product is compatible with a 6F guide catheter, which includes both the .070 and .071 versions. QXM changed the inner diameter compatibility to greater than or equal to .071 inches. (Ex. 12 at QXM119398; Ex. 10 at QXM000088.) QXM did not submit the revised IFU to the FDA, because this change was insignificant. (Ex. 7 at 212-13.)

Fifth, QXM's expert admitted that the revised IFU is a sham. That IFU states: "Do not attempt to pass the catheter through a smaller sized guiding catheter or sheath than indicated in Table A. Damage to the device may occur." (Ex. 10 at QXM000089.) Brown agreed that this statement is not true, because "for that particular model using it with an .070 would not cause damage." (Ex. 2 at 136; *see also id.* at 136-38.) QXM knows from its own testing that the modified IFU's precautionary statement is false. (Ex. 11 at QXM008641)

Sixth, the revised IFU's specifications show that the difference between the outer diameter of the Boosting Catheters and the inner diameter of the compatible guide catheters is .002 inches *other than for the 6F model*. (Ex. 10 at QXM000088.) A physician reviewing the IFU would understand that QXM's 6F product would work with an .070-inch guide catheter, despite QXM's false precaution, because the 6F model's .003-inch clearance is unnecessary.[3] (Ex. 2 at 136-38.)

[3] Physicians do not have to follow instructions for use, but are free to practice medicine as they see fit. *Buckman Co. v. Plaintiffs' Legal Committee*, 531 U.S. 341, 350 (2001). QXM is also wrong that 21 CFR 801.4 and 801.5 immunize it from liability. The facts determine QXM's liability, and these provisions merely prescribe requirements for adequate instructions.

Seventh, the first physician to use QXM's 6F product in a patient, Dr. Wang, ignored the modified IFU and used it with an .070-inch guide catheter. (Ex. 13 at QXM117750; Ex. 14 at 5; and Ex. 2 at 138-142). QXM's expert admitted that Dr. Wang infringed VSI's "one French" claims. (Ex. 2 at 138-142). Dr. Wang noted that the 6F Boosting Catheter was "compatible" with and "easily inserted through" the .070-inch guide catheter. (Ex. 13 at QXM117750.) QXM knew about Dr. Wang's infringement, and documented it in QXM's design validation report. (Ex. 13.) Dr. Wang is on QXM's medical advisory board and is a part-owner of QXM. (Ex. 15 at 29-30.)

Eighth, QXM has repeatedly marketed the 6F Boosting Catheter to potential distribution partners, companies that would sell QXM's 6F product alongside their 6F guide catheters with .070-inch inner diameters. (*See* Exs. 16-18 (QXM presentations to Medtronic, Merit, and Cordis); Ex. 14 at 5 (Cordis catalog with .070 guide catheters); Ex. 19 at 7 (Merit catalog with .070 guide catheters); and Ex. 20 at 25-44 (Medtronic catalog with .070 guide catheters).) QXM's presentations state that its 6F device is compatible with a 6F guide catheter, with no mention of the .071-inch restriction. (*See* Ex. 16 at QXM094729; Ex. 17 at QXM094751; Ex. 18 at QXM090881.) QXM never tells potential distributors that they cannot sell the 6F Boosting Catheter for use with an .070-inch guide catheter. (Ex. 7 at 211-218.) QXM continued this practice after making the sham revision to its IFU. (Ex. 21 at QXM094241.)

Ninth, QXM tells doctors in its sales presentations that its 6F product is compatible with 6F guide catheters generally. QXM's presentations do not say anything about restricting use to .071-inch guide catheters. (Ex. 22 at QXM106231.) QXM

represented to Mayo Clinic that the method of use for its products is similar to VSI's GuideLiner, so "most users would not need additional training." (Ex. 23.)

Because there is more than enough evidence to create a fact question on inducement, the Court should deny QXM's motion for summary judgment on all of the "one French" claims.

V. VSI IS ENTITLED TO SUMMARY JUDGMENT REGARDING THE RIGIDITY OF THE SIDE OPENING SEGMENT OR PARTIALLY CYLINDRICAL OPENING SEGMENT COMPARED TO THE TUBULAR STRUCTURE OR DISTAL END PORTION.

A. QXM Waived Its Noninfringement Argument.

QXM asks the Court to construe "segment defining a side opening" and "segment defining a partially cylindrical opening" to exclude "any full-circumferential (tubular) structure." (Br. at 23.) QXM argues that it does not infringe because the marker bands in its tubular structure are more rigid than its definition of these segments. (Br. at 26-30.)

QXM waived this argument. The scheduling order required QXM to "indicate with specificity the elements ... it contends are absent [and to] set forth in detail the basis for its contention that the element is absent." (Dkt. 20 at 4.) QXM's noninfringement contentions do not provide any notice of its "marker band" defense. (Ex. 24 Att. B at 11-12, 23; Att. C at 9-10, 20; Att. D at 15.)

In its contentions and during the *Markman* process, QXM "insist[ed] that the side opening must be located in the substantially rigid portion, and not in the flexible tubular portion," an argument the Court rejected as "a non-starter." (Dkt. 102 at 25.) QXM gave no notice that it planned to rely on the rigidity of the marker bands, or that it considered

the "segment" claim terms to exclude full circumferential structure. Quite the contrary, actually, as QXM's *Markman* briefs argued that the "side opening" and "partially cylindrical opening" segments *must* include a fully circumferential portion. (*See* Dkt. 56 at 28-29 (describing the "side opening" as including "a fully cylindrical, rigid collar that attaches to the proximal end of the flexible tube ...."); *see also* Dkt. 63 at 17.) QXM made the same argument in its prior art statement. (Ex. 25 at 4 ("full circumferential section ... creates the structure forming a side opening.").)

It is too late for QXM to change course. The Court should deny QXM's motion because QXM waived this noninfringement argument. *BreathableBaby, LLC v. Crown Crafts, Inc.*, No. 12-cv-94 (PJS/TNL), 2014 WL 3928526, at *4-5 (D. Minn. Aug. 12, 2014); *Silicon Labs., Inc. v. Cresta Tech. Corp.*, No. 14-cv-03227-PSG, 2016 WL 791792, at *3 (N.D. Cal. Mar. 1, 2016).

B. QXM's Claim Construction Contradicts The Intrinsic Evidence.

Even if QXM's argument were timely, the claim language refutes QXM's construction. The claims recite a *segment* defining a side opening or a partially cylindrical opening, not just a "side opening" or "partially cylindrical opening." QXM's proposal improperly strikes "segment" from the claims. *Vederi, LLC v. Google, Inc.*, 744 F.3d 1376, 1383 (Fed. Cir. 2014).

Claims 25 and 52 of the '776 patent recite that the "segment defining a partially cylindrical opening" also "ha[s] an angled proximal end." That means the angled portion is not the *entirety* of the segment, refuting QXM's argument. The same logic holds for claims 25 and 48 of the '760 patent, which claim "a segment defining a side opening ...

the side opening extending for a distance along a longitudinal axis of the segment defining the side opening." That language indicates that "segment defining a side opening" and "side opening" are not necessarily coextensive; the segment can include a full circumferential portion.[4]

QXM's argument also should be rejected because it violates the principle of claim differentiation. Dependent claim 28 of the '760 and dependent claim 55 of the '776 each require a "full circumference cross-sectional shape." These claims demonstrate that the side opening segment and the partially cylindrical opening segment of the independent claims can include a full circumferential portion. *Trustees of Columbia Univ. in City of New York v. Symantec Corp.*, 811 F.3d 1359, 1370 (Fed. Cir. 2016) ("[C]onstruing the independent claim to exclude material covered by the dependent claim would be inconsistent.").

The specification refutes QXM's argument. It describes side opening structure with a short full circumferential portion (*see* '032 patent at 6:38-43), and does not include any disclosure limiting "segment defining a side/partially cylindrical opening" to an angled structure.

QXM's reliance on the file history is misplaced. QXM relies on a diagram referring to "side opening structure" that included both a first inclined slope and a second

[4] Claim 52 of the '116 patent claims a "segment defining a side opening" without similar additional language. As discussed in Part VI, QXM takes the opposite position regarding claim 52, arguing that its "segment" consists *only* of full circumferential structure. That construction improperly deletes the word "side" from claim 52. The proper reading is that "segment defining a side opening" may include full circumferential structure and also includes angled structure.

inclined slope. (Merrill Ex. 28 at 36.) VSI's diagram did not address the "*segment* defining a side opening." Instead, VSI was commenting on a reference lacking inclined slopes. VSI's accurate reference to the inclined slopes as part of the "side opening structure" falls far short of a clear and unambiguous disclaimer of segments that also include full circumferential structure, and does not support QXM's proposed construction. *Sorensen v. ITC*, 427 F.3d 1375, 1378 (Fed. Cir. 2005).

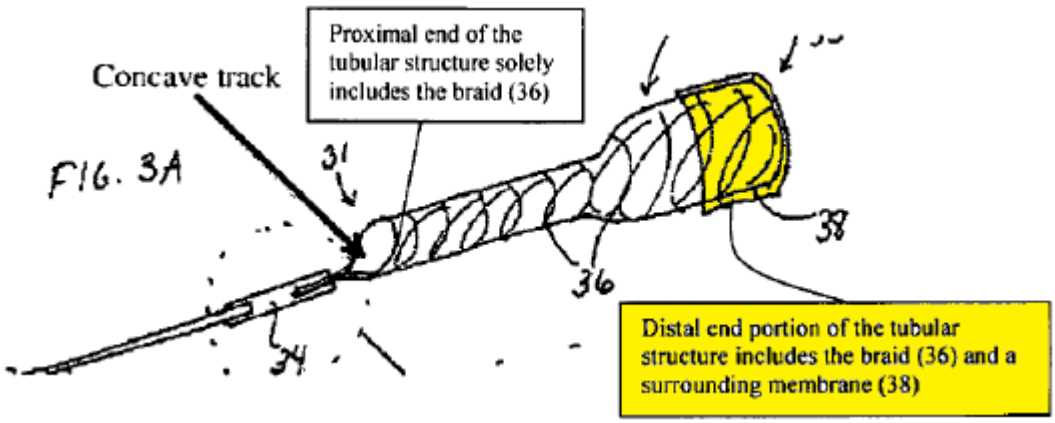
C. QXM's Boosting Catheter Has A Segment Defining A Side/Partially Cylindrical Opening That Is More Rigid Than Its Tubular Structure And Its Distal End Portion.

Claim 25 of the '760 patent and claims 25 and 52 of the '776 patent require a comparison to "the tubular structure," while claim 48 of the '760 patent and claim 52 of the '116 patent require a comparison to the "distal end portion of the tubular structure." QXM argues that the Boosting Catheter does not infringe because two marker bands are more rigid than the side opening/partially cylindrical opening segments. Even if QXM had not waived this argument, QXM's cherry-picking of two tiny parts of its tubular structure contradicts the claim language.

The 1-millimeter marker bands are *not* "the tubular structure" or the "distal end portion of the tubular structure." They are so short that they have no material effect on the rigidity of those structures. (Keith ¶¶63, 65.) The two marker bands account for an insignificant part of the "tubular structure" or the "distal end portion." (*Id.* at ¶64.)

Using QXM's logic, a diamond speck inserted in the tubular structure avoids these claim limitations. That defies common sense, but QXM's position, is that the Court

should so construe "tubular structure" and "distal end portion," because of this drawing VSI submitted during the '116 patent prosecution.



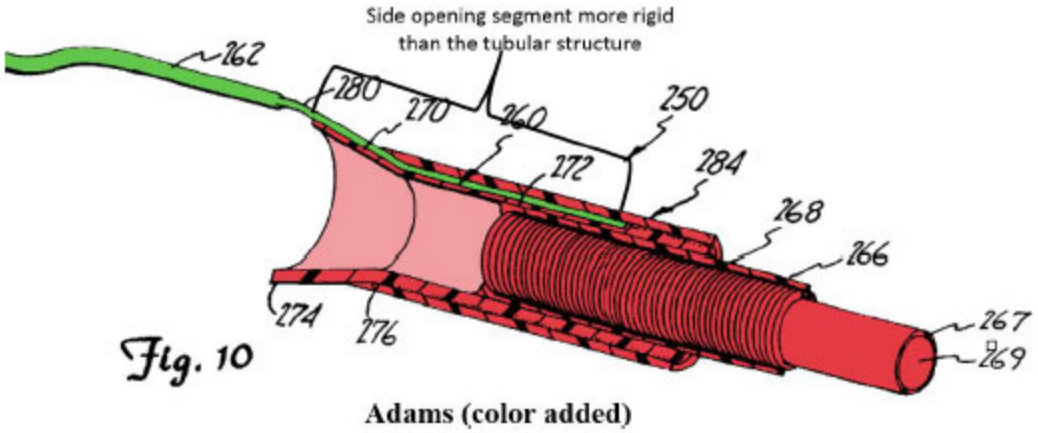
QXM's argument makes no sense. VSI distinguished Adams '280 from pending claims requiring the "segment defining the side opening" to be more rigid than the "distal end portion of the tubular structure." (Merrill Ex. 28 at 37-39.) VSI pointed out that Adams '280's tubular structure was braided while the "distal end" of that structure added a surrounding membrane. (*Id.*) A review of the drawing, in particular the length of the "surrounding membrane," indicates that VSI's position was reasonable, and that it gives no support to QXM's argument that the relevant comparison is with any "discrete section" of the tubular structure, no matter how small.

As VSI's expert explains, the Boosting Catheter's "segment defining a side opening/partially cylindrical opening" is more rigid than the "tubular structure" and the "distal end portion," and these claim limitations are met. (Keith ¶¶51-62.) The Court should deny QXM's motion and grant VSI's motion concerning these claim limitations.

VI. ADAMS DOES NOT ANTICIPATE CLAIM 53 OF THE '116 PATENT.

A. QXM Waived Its Argument that Adams Anticipates Claim 53.

Relying on the annotated figure below, QXM argues that "[t]he 'side opening' portion of Adams is necessarily more rigid than the remaining distal portion of the tube because the 'side opening' contains the embedded pushrod 262 formed from nitinol wire":



Adams (color added)

(Br. at 34.)

QXM's prior art statement did not disclose this argument. (*See* Ex. 25 Att. F1 at 13; *id.* Att. C1 at 3-6, 12-19, 36-37.) QXM violated the scheduling order, which required QXM to provide a "detailed explanation ... [of] how that prior art invalidates the claim(s) asserted ... , including ... where in such prior art each element of the allegedly invalid claims may be found." (Dkt. 20 at 6.)

QXM included this argument in its expert report without seeking leave to amend its prior art statement. QXM cannot use this argument now unless it has "good cause" to amend. *BreathableBaby*, 2014 WL 3928526, at *4-5; *Silicon Labs*., 2016 WL 791792, at *3. Because QXM lacks good cause, VSI is entitled to summary judgment.

B. If The Court Reaches This Issue, The Court Should Rule That Adams Does Not Anticipate Claim 53.

To anticipate, a single prior art reference must expressly or inherently disclose each limitation. *Finisar Corp. v. DirecTV Group, Inc.*, 523 F.3d 1323, 1334 (Fed. Cir. 2008). Adams does not disclose two limitations: (i) the "segment defining a side opening", and (ii) the "segment defining the side opening ... is more rigid than the distal end portion of the tubular structure."

1. Adams Does Not Disclose A "Segment Defining A Side Opening."

The Court ruled that the various "side opening" formulations "need no construction and will be given their plain and ordinary meaning." (Dkt. 102 at 26.) QXM's *Markman* briefing never hinted that it read claim 53's "segment defining a side opening" to lack angled structure, and its prior art statement made no distinction between the "side opening" of claim 53 and the "side openings" in the other claims, which QXM concedes are "angled." (*See e.g.,* Ex. 25 at 7 ("The asserted VSI patents-in-suit, at best, claim a preexisting rapid exchange catheter with ... an angled proximal side opening.").)

QXM's argument that claim 53's "side opening" does not require an angled structure is incorrect. QXM improperly deletes the word "side" from claim 53's requirement of a "segment defining a side opening." *See Vederi*, 744 F.3d at 1383. And QXM improperly proposes conflicting constructions: for infringement, QXM argues that a "segment defining a side opening" excludes any full circumferential portion, while for invalidity QXM argues that the same term consists only of full circumferential structure. *See Amgen Inc. v. Hoechst Marion Roussel, Inc.*, 314 F.3d 1313, 1330 (Fed. Cir. 2003)

("It is axiomatic that claims are construed the same way for both invalidity and infringement.").

The plain meaning of "segment defining a side opening" requires some amount of side exposure or angle. (*See* Keith ¶¶82-83.) VSI is entitled to summary judgment because Adams discloses only a perpendicular opening, not a "segment defining a side opening."

2. Adams Does Not Disclose A "Segment Defining The Side Opening … More Rigid Than The Distal End Portion Of The Tubular Structure."

Even if QXM's definition of "segment defining a side opening" were accepted, QXM lacks the clear and convincing evidence needed to create a jury question. Based on a single annotated figure, QXM argues that Adams's embedded pushrod "necessarily" makes the alleged "segment defining a side opening" more rigid than the distal end portion. (Br. at 34.) But QXM cannot prove inherency. Inherency requires proof by clear and convincing evidence that the disputed feature is "necessarily present", and it is not enough that "a certain thing may result from a given set of circumstances." *Electro Med. Sys. v. Cooper Life Sciences, Inc*., 34 F.3d 1048, 1052 (Fed. Cir. 1994).

As Pete Keith's declaration explains, Adams does not provide sufficient information to determine whether QXM's claimed segment is necessarily more rigid than the distal end portion. (*See* Keith ¶80, 84-86.) There is no device to test, and the written description lacks specific information on rigidity. Because QXM cannot show inherency by clear and convincing evidence, the Court should grant VSI's motion for summary judgment that claim 53 is not anticipated by Adams. Alternatively, the Court should

deny QXM's motion because QXM's inherency argument is a disputed fact issue. *Finnigan Corp. v. ITC*, 180 F.3d 1354, 1362 (Fed. Cir. 1999).

VII. THE BOOSTING CATHETER INFRINGES CLAIMS 25, 36, 52, AND 53 OF THE '776 PATENT.

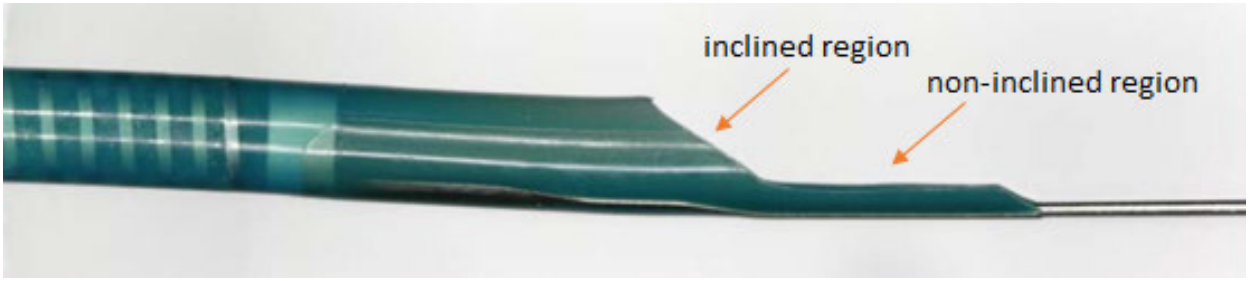
There is no material dispute that the Boosting Catheter meets every limitation of claims 25, 36, 52, and 53, including the few that QXM contests. (*See* Keith ¶33-69.) VSI already addressed the rigidity comparison between the "segment defining a partially cylindrical opening" and the "tubular structure" required by claims 25 and 52 and the "one French" requirement of claims 25 and 53. The remaining contested limitations are: the "substantially rigid segment" of claims 25, 52 and 53; the "one inclined region that tapers into a non-inclined region" of claim 36; and the "two inclined regions" of claims 52 and 53.

A. "Substantially Rigid Segment"

QXM admits that the Boosting Catheter's pushrod is "rigid enough to allow the device to be advanced within the guide catheter." (Ex. 2 at 10.) QXM's argument that "substantially rigid" is indefinite is not relevant to infringement. Any challenge to infringement must apply the Court's claim construction. *See Bombardier Recreational Prods., Inc. v. Arctic Cat Inc.*, No. 12-2706 (JRT/LIB), 2017 WL 758335, at *11 (D. Minn. Feb. 24, 2017).

B. '776 Patent, Claim 36: "The guide extension catheter of claim 25, wherein the segment defining the angled proximal end of the partially cylindrical opening includes at least one inclined region that tapers into a non-inclined region."

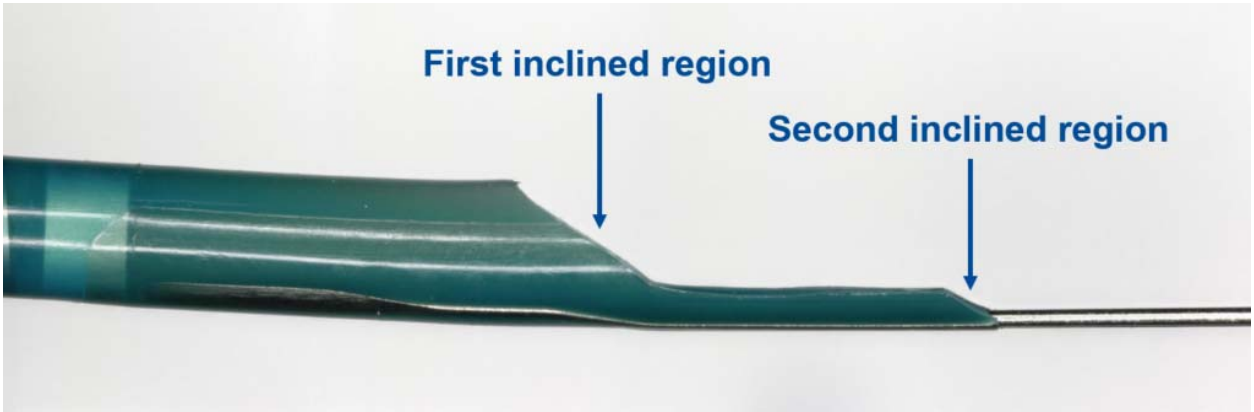
QXM's expert contests this limitation, arguing that QXM's device is similar to the prior art. (Merrill Ex. 21 ¶¶267-70.) "Practicing the prior art" is no defense. *Tate Access Floors, Inc. v. Interface Architectural Resources, Inc.*, 279 F.3d 1357, 1366-68 (Fed. Cir. 2002). This limitation is met:



(Keith ¶67.)

C. Claims 52 and 53: "The segment defining the angled proximal end of the partially cylindrical opening includes at least two inclined regions."

QXM again relies on an irrelevant "practicing the prior art" defense. (Merrill Ex. 21 ¶¶267-70.) The Boosting Catheter meets the "two inclined regions" limitation:



(Keith ¶69.)

CONCLUSION

VSI respectfully requests that the Court grant VSI's motion for summary judgment and deny QXM's motion for summary judgment, as set forth in VSI's proposed order.

Dated: April 30, 2019

Respectfully submitted,

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